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SCHOOL AND SOCIETY

Volume XVI SATURDAY, NOVEMBER 11, 1922 Number 411

AMERICAN UNIVERSITY EDUCATION[1]

THE people of the United States have a great national industry which is never mentioned in the summaries of the productive enterprises of the country. It is the industry of building universities. The industry has absorbed an extraordinary amount of creative energy. It has demanded ingenuity of the highest order. It has entailed sacrifices in which all, from the very rich to the very poor, have shared. It now represents an invested capital of $1,250,000,000. In cash it has never paid a penny on the investment, which accounts for its common omission from the record of those productive undertakings that add visibly to the wealth of the nation. But indirectly what has been the return? Scientific discoveries and the application of scientific knowledge to manufacturing, to commerce, to agriculture, to engineering processes, to the prevention and cure of diseases, which are responsible for a large proportion of the actual profits of the nation's business. Wipe out the contributions made by the universities during the last fifty years and the industrial life of the nation would shrivel to insignificant dimensions.

And all the while the universities have also been engaged in their ancient mission of dealing with the non-utilitarian facts of the universe and with human achievements in the immaterial realms of art, of letters and of social relations. How far the general enlightenment that has resulted from such occupations has enhanced the productivity of the country, it is impossible to say. But there are many who believe, and I am one of the number, that precisely these traditional activities are of all the contributions of universities the most important.

The industry of building universities—building them in the sense not only of establishing them but of maintaining them, expanding them, from time to time recreating them—has been little scrutinized. Those that have attempted such scrutiny have generally confined their attention to one or two local specimens with which they happened to be acquainted. Few persons have ever tried to view the industry as a whole, to account for its extraordinary diversity, to discover the irresistible social laws that underlie its various manifestations. Since this occasion is not in any sense a personal tribute to an individual, but is designed rather to celebrate the turn of an epoch in the building of this university, it may be appropriate to examine certain of these broader aspects of the university movement and to determine their bearing upon the enterprise to which we here are committed.

Two primary motives operated to cover the country in the course of two hundred years with the network of collegiate institutions that now constitute the university system of the United States. These motives are familiar to everyone. They were, first, the conviction of the leaders of the people that, without tinge of partisanship, the highest achievements of the intellect

[1] Inaugural address as chancellor of the University of Buffalo, October 28, 1922.

should be preserved, transmitted and increased, that they should be made available in this area or in that; and, second, the desire of certain religious bodies to provide opportunities for higher training that should be imbued with the doctrines and spirit of a particular sect. The first of these motives was by far the more pervasive. It has remained the more persistent. It has been responsible for the establishment of institutions on private foundation and of institutions supported by the state. For example, it accounts equally for the creation of Harvard and of the University of Washington or the University of North Carolina. Whether for good or ill, the second motive has become relatively less influential with the passage of the years.

The hopes of the founders of universities have been peculiarly the sport of destiny. And for universities the name of destiny is geography. The influence which environment has come to exercise over the growth of universities, over their characteristics and over their prospects could not have been conceived even as recently as fifty years ago. But in the light of present facts the early notion of founders of universities that it did not matter much where such institutions were located provided the surroundings were physically wholesome, seems quaint indeed. Geography, the distribution of population, the direction of transportation routes, have held all colleges and universities in an iron grip. Few institutions have been able to overcome the handicap of a bad location. Whether the university be private or public, sectarian or non-sectarian, if it is remote from centers of population, hard to come at by railroad, out of contact with the vitalizing influences that emanate from large communities, its growth is retarded and that keen spirit of intellectual adventure, which is the life force of universities, abates. The few exceptions to this dictum hardly alter the inexorable quality of the rule.

But conversely where the population is concentrated, where for geographical reasons industry and commerce are focused, there universities thrive beyond all early expectations. Old institutions take on new life. If no old institutions exist, new ones are founded. To the motives that originally led to the creation of our university system another has now been added. It is the insistent demand of large communities for such services as only universities can render. From the social point of view the outstanding fact in the recent history of universities is that these institutions have been entirely recast, the balance of power among them redistributed, in response to this new demand.

In other words, the cities are now taking the lead in the national industry of building universities. If anyone doubts this statement let him run over in his mind the great cities of the country and note what has happened and is happening to the institutions located in or near them. Let him compare the urban universities with others of equal age and similar origin, but situated in small places, and observe the differences. It is not mere accident that, with very few exceptions, the universities which are preeminent in scientific output and public service are to be found in the great centers of population. Forces are at work behind this movement that are as irresistible as natural law.

These facts have peculiar significance for this institution and this community. The University of Buffalo has had a singular history. Chartered as a university, and with a charter conferring the broadest sanctions, it consisted for forty years of a medical school alone. This in itself

was unusual, though not unique. But when subsequently additional professional schools were created the University still presented characteristics that set it apart from other institutions of like designation. The several professional divisions were not coordinated; each was financially and administratively independent; and there was no college of arts and sciences to form at once the base and the nexus of a genuine university organization. These conditions were severe handicaps to its development. But they were in a measure offset by two factors the value of which can hardly be overestimated. I refer to the devotion and the vision of the leading men of the city who have been members of the University staff or its advisers for three quarters of a century. To the first of these factors the University owes the distinguished reputation which its professional schools enjoy and the ardent loyalty of a large body of alumni. To the second it owes the concept of the true university which has but just now been translated into fact.

The University of Buffalo began its life as a real university with the establishment of its College of Arts and Sciences some eight years ago. Not until then was it prepared to offer those peculiar services that great municipalities have come to require. But the citizens of Buffalo should never forget that the vision long preceded the realization. The present status of the University and whatever it may become in the future rest upon the foresight and the energy of a long line of men, some of them still actively connected with the institution, who have served it with unexampled self-denial for nearly three generations. In connection with an enterprise to which so many have contributed it would be invidious to mention names. Nevertheless I venture to refer to one person whose insistent advocacy of the complete university idea, whose enthusiasm and infectious leadership made possible the institution that we are assembled to honor—Chancellor Charles P. Norton, my immediate predecessor.

Apparently the people of the city felt intuitively that the establishment of the College of Arts and Sciences, even on the very modest scale which marked its beginning, put the University in a position to respond progressively to their demands. And they were right. It is not so much that a college of arts and sciences of the traditional plan and scope is in itself equipped to meet the manifold needs of a highly complex municipal community. But a college of arts and sciences is a germinating center. It possesses the power of segmentation and of almost infinite adaptation to its environment. For instance, it can split off from itself other units devoted to professional and semi-professional training. It is in fact the matrix in which have been molded nearly every one of the professional and technical schools now represented in the American higher educational system. In the course of the next twenty years it is likely to give birth to many more. But, at the same time, the primary concerns of the college of arts and sciences are the interpretation of the problem of society, the pursuit of learning for the sake of learning, the search for truth. It may thus become at once the instrument whereby the community gets specific tasks performed and the symbol of the community's most generous aspirations.

Something of these latent potentialities the citizens of Buffalo must have perceived, for when the College of Arts and Sciences was created they definitely accepted responsibility for building a university that should be worthy of the city. The liberality with which they have already gone about the task has astonished the country. But, after all, it is not the substantial amount

of money given by large and small donors that makes the recent financing of this institution impressive. The impressive feature is the number of contributors. That more than twenty-four thousand citizens from a city of half a million inhabitants should be willing to help support a university is an event without parallel in American educational history. As a testimonial of popular interest and confidence it is worth far more than the value of the sum contributed, indispensable as these are.

The University of Buffalo is now in a peculiarly fortunate situation. It has developed slowly—more slowly than many other urban universities. But there are compensations in this fact. It is relatively unhampered by traditions and commitments. It is free to initiate new undertakings and to experiment. Its endowment fund is not large in comparison with certain other foundations, but there is enough in hand or in prospect to insure the immediate future of the institution. Its location is strategic, close to Canada and therefore subject to the stimulus of a foreign example, comparatively remote from other great cities, on the main highway between the East and the West, in the midst of a growing metropolitan district of widely diversified industries and varied social composition. Moreover, it has just been fortified by tangible evidence of the good will of its constituency.

The opportunities before the University are unique. How shall it improve them? There are, of course, a number of definite services that it must render to the city. Some of these it has already undertaken. Some that it has not yet undertaken are obvious. Some that are not yet obvious will presently reveal themselves. In this respect urban universities possess another special advantage; they are never left long in doubt as to what the public wants them to do. And the tasks demanded of each one are in a large measure determined by the occupations and interests of the city in which it is located. The obligation to render these services to Buffalo constitutes a first mortgage on the University's resources. I might attempt to catalogue the services for you. But I fear it would not prove entertaining and I am sure it would be indiscreet. It is inevitable, too, that the University will shortly develop other professional divisions. These will naturally emerge as called forth by the city's needs. I think I know what some of the first of these divisions will be, but it would be still more indiscreet for me to share with you now my surmises.

These strictly local preoccupations, however, do not constitute the University's sole opportunities. There is a problem of more than local import waiting to be attacked by any institution that has the courage. I mean nothing less than the general problem of the reform of American higher education. I believe that every university is under obligation to contribute to the solution of this problem so far as it is able. A special obligation devolves on the University of Buffalo by reason of its freedom and the prominence it has attained through the events that have just been reviewed. Let me define the problem for you as I see it. I have already paid my respects to the broader achievements of American universities. They are noteworthy and a source of just pride. It is not, therefore, in any spirit of captious criticism that I now call attention to some of the shortcomings of the higher educational establishment.

If we regard American higher education in its cosmic aspects, certain disconcerting facts are immediately evident. Nearly every type of institution, except the college of agriculture, is overcrowded. The congestion is most pronounced in the

colleges of arts and sciences. All colleges of arts and sciences suffer from it to some degree. But the colleges of arts and sciences which are divisions of large universities are most seriously glutted. The onrush of students, which amounts almost to a tidal wave, has threatened the efficiency of instruction—in some cases has already impaired it—and has led for the first time in our history to sincere attempts to limit numbers. Indeed the educational issue now most warmly debated both by laymen and educators is the question of how and to what extent the number of college students may be limited. The question has not become pressing as yet except for colleges of arts and sciences. Nevertheless it may shortly be forced upon professional schools also. The tremendous increase in secondary school enrollments all over the country indicates that the situation which colleges now face is not a temporary one but is bound to become more acute.

At the same time there is a general belief that the intellectual morale of college students has declined. Wide differences used to exist in this respect between the students of the East and those of the West. As a rule the western students were serious and diligent whereas the institutions of the so-called effete East contained a larger proportion of idlers and of those who went to college not as a matter of deliberate choice and at some sacrifice, but because they were sent. Reports available from all over the country now suggest, however, that these differences have been largely leveled. The intellectual morale of certain western institutions may still be somewhat higher, but in the West also a marked decline is apparent.

The fact, which is universally conceded, is variously explained. Perhaps the reason most frequently given is the lack of motivation of the college of arts and sciences. What are the objectives of the college of arts and sciences? They are defined nearly always in vague, if high sounding, terms. The definitions inspire a kind of naive faith in the general public, although that faith has of late sustained some rude shocks. But do they provide the majority of the students with a stimulus to high endeavor? It would be illuminating to secure from all the undergraduates of America statements as to why they are in college and what benefits, material or immaterial, they expect to derive from the experience. I suspect such statements would reveal an extraordinary variety of testimony and a depressing lack of precision.

But whatever uncertainty may exist in the minds of the undergraduates is only a pale reflection of the uncertainty that prevails among college officers themselves. If anyone is inclined to challenge this assertion let him first ask himself what a bachelor's degree in arts and sciences stands for. To what attainments does it certify? What definable knowledge or skill or capacity does it guarantee? The answer is, none. The bachelor's degree of this institution or of that may carry a presumption of good character and mental alertness because of the known quality of the instructional staff and the conscientious manner in which the institution enforces its standards. But broadly speaking the American degrees of A. B. and B. S. represent no common body of information, no distinguishable level of intellectual power, hardly even a common point of view.

And why should they? A degree is after all but the certificate of the completion of certain stated requirements. What are the requirements for the bachelor's degree? It is almost literally the fact that they are different in every institution. Institutions in the same region, probably through the operation of the herd instinct, tend to have similar, although not identical require-

ments. But there are the widest differences between the requirements of institutions in different regions. Nevertheless each institution defends its requirements to the last detail as if they were the embodiment of a divine revelation. The plain truth is that there is only one common denominator for the American baccalaureate. It is one hundred and twenty semester hours. Doubtless to many members of this audience the statement conveys no meaning. What it means is that we measure the attainments for the bachelor's degree in terms of a number of courses occupying in the aggregate so much time. The bachelor's degree *may* stand for other things in addition, but the completion of one hundred and twenty semester hours is all that it can be proved to stand for.

I am not confusing the ultimate objective of a college education with the formal requirements for a degree. The ultimate objectives are very real despit the vagueness with which they are defined. But they no longer appeal to the average undergraduate. Indeed he does not understand them. The college of arts and sciences does not now offer him incentives to effort comparable with those that animate students of law or medicine or engineering. The college has shirked the obligation to furnish equal incentives and to interpret them. It has taken the easy course of setting up purely mechanical requirements. The amount of motive power that resides in these is very slight. The undergraduate is to be pardoned if he regards them with cynical tolerance.

The lack of adequate motivation of the college of arts and sciences is brought into still more striking relief by the tendency of the college to break up into sub-divisions having distinct vocational aims, for example, courses in commerce, in journalism, in home economics, in industrial chemistry, and so forth. In the larger universities these eventually become separate professional schools, but in the institutions of simpler organization they are likely to be carried as parts of the college of arts and sciences. And here on the periphery of the college there is motive power enough. More and more the energetic students are attracted to these courses, undoubtedly because they lead to objectives that are definite and comprehensible.

But the college of arts and sciences is not the only part of the higher educational establishment that exhibits shortcomings. Professional schools have their share. If we ignore for the moment the splendid scientific achievements of professional schools and the aptness of many of the methods that have been developed, and if we regard our higher educational machinery simply from the point of view of its effectiveness in the preparation of professional practitioners, what do we observe? The first thing that strikes the attention is that Americans enter upon their professional careers on the average at least two years later than do the citizens of other countries. And the delay is constantly being increased by the action of the professional interests themselves. Organizations of doctors, lawyers and dentists are forcing the universities both to extend the period devoted to training in the professional school and to impose higher and higher requirements in the way of preliminary education. Moreover, the demands of each professional group are made without reference to their effect upon the educational scheme as a whole. The serious social results of this procedure need not be discussed here, but there are certain educational results that are worth mentioning. The imposition of long time-requirements for the training of members of the older professions has set a fashion for the newer professions. A professional course that occupies less than four years is now deemed

hardly respectable, even if the knowledge and skill needed by the practitioner of the profession can be acquired in a much shorter period. Thus professional training in a rapidly increasing number of specialties is being standardized by imitation and on grounds of an imagined prestige.

These are some of the more conspicuous shortcomings of American university education. They strike the eye of any critical observer. But after all they represent only the superficial symptoms of a malady that is deep-seated. If we probe the situation further it becomes clear that the universities are not solely responsible for the defects that have been cited and that these defects cannot be entirely cured, although they may be remedied, by the action of the universities alone. Indeed the responsibility can be rather evenly distributed over the whole educational system. It is, therefore, necessary to survey the whole problem before that part of it that concerns the universities only can be attacked. If I may be permitted a very dogmatic form of statement the underlying factors of the problems can be summarized in a few sentences, thus:

The period devoted to elementary education is too long. The materials presented to elementary school children are loosely organized, full of duplications and tiresome non-essentials. Methods have improved greatly in recent years, to be sure. But these advantages have been largely offset by the tendency to crowd all manner of subjects into the elementary school. Proof is wanting that the so-called enrichment of the elementary curriculum has increased the intellectual power of the pupils.

Secondary education begins too late and ends too soon. It does not comprehend the whole period of general formal training which in most other civilized countries is assigned to secondary schools. It is too diffuse and consequently superficial. Incidentally it provides very imperfectly for the vocational preparation of those who must straightway proceed to earn a livelihood.

University education is distinctly a hybrid phenomenon. The college of arts and sciences deals only to a limited extent with strictly university materials. At least 50 per cent. of the work done in it ought properly to be classified as secondary education and rightly belongs to the secondary school. Because of this fact both the teaching methods of the college and its disciplinary regime are adapted rather to immature boys and girls than to men and women who have entered upon the serious preparation for their life work. Time is therefore wasted not only below the college, but still more prodigally in the college. But university education also includes a group of professional schools and curricula operated on different levels. Some are on the level of the college of arts and sciences and take students direct from secondary schools. Others require for entrance one year of college training, others two years, and others four years. Thus the university itself endorses a paradox. Through the regulations governing its schools of medicine and law it implies that half of the college course is secondary education. Its schools of engineering and agriculture are administered on a contrary implication.

If my analysis is correct it is clear that the United States faces the need of a drastic and thoroughgoing reform of its whole scheme of education to the end that our children and our youth may be more effectively trained and that time may be saved in the process. The reform demanded does not consist of the mere readjustment of the machinery of administration. It must go to the heart of the undertaking.

It must deal with the content of subjects and courses. These must be definitely related to the future careers of the students who pursue them.

It is always easy to find fault; and it is an ungrateful and an unpopular exercise. But we here have set about the task of building a university. In order that we may know how to build and what to build, it is necessary to have a look at the foundations. The defects that have been noted give no cause for discouragement. Rather are they a stimulus and a challenge. Their existence is the opportunity of the University of Buffalo. There is no central educational authority in the United States which can by fiat remold the whole system. If there were, perhaps the system would not be faulty in just the particulars that have been mentioned, but it would undoubtedly suffer from other and worse diseases. Changes in American education have to be made piecemeal. They result from local experimentation. If local experiments succeed they are adopted over wide areas and by contagion they become the rule of the land. Such being the case the University of Buffalo, just starting on a new cycle in its career, with fresh resources and a new college, is in a position to make an epochal contribution to American higher education. How?

The emphasis in the foregoing discussion has been misplaced if it has not indicated that the center of the problem as far as higher education is concerned is the college of arts and sciences. The college of arts and sciences must be regenerated or it will die. It will be cut up into a multitude of professional divisions and disappear. Three obvious steps suggest themselves as leading toward its regeneration.

Admission to college and continuance in college should depend on a far more searching process of selection than any that now prevails. I do not hold with those who would limit the number of college students on the basis of any distinction of race or sex or creed or social standing. There is but one justifiable basis on which a university in a democratic community such as this can choose those who are to become members of it, the basis of ability. But a university is a place maintained at great expense to foster the philosophic point of view, to stimulate constructive thinking, because this point of view and this mode of thinking have been found necessary to the progress of civilized society. It is fair to demand that those who can not capture the philosophic point of view and who cannot learn to think constructively should not consume its resources. Unfortunately we do not now have tests that will determine with sufficient accuracy the capacity of applicants for admission. The creation of such tests—and experiments in this direction are all the time going forward—is one of the important phases of the problem. The decision as to whether certain of those that are in college are qualified to remain is relatively easy. It can be made, and made justly, if the moral courage of the faculty can stand the strain.

As early as possible in the college course there should be provision of opportunities for independent study, carried on in the spirit of research, without meticulous oversight and with judgment only of the final results. This is substantially the procedure the British universities with the selected group of students who read for honors. The work done by these students is incomparably superior in quality to that which any American college student is required to perform. A few American colleges are now experimenting with honors courses on the British model. But none of these experiments as far as I am familiar with them, yet goes far enough. The principle

which in the British universities applies only to honor students should be adopted by American colleges and applied universally. None should be allowed to graduate who have not demonstrated their capacity for independent study and registered definite mastery of some field of knowledge. Not only would the American baccalaureate degree thus acquire a meaning which it now lacks, but the college of arts and sciences would become as serious and purposeful as are the professional divisions of the university.

If the two steps that have just been described should be taken the instructional material of secondary grade which now encumbers the college of arts and sciences would largely disappear by force of gravity. Yet I believe that the college should also adopt other means to place secondary instruction where it properly belongs. By entering into the closest cooperation with the school systems from which the majority of its students come, methods of redistribution may be progressively established which will prove of mutual advantage to the college and to the schools.

In the general problem of the reform of higher education the college of arts and sciences may offer the first point of attack. But I have failed in my analysis if I have not made it plain that professional schools also stand in need of reconstruction. There are two aspects of the problem as it concerns professional education. The various kinds of professional training must be reexamined with fresh reference to the demands of the professions themselves. And the chaos that prevails in the relationship of the college to the professional schools must shortly be reduced to some kind of order. I am persuaded that both these ends could be furthered by a type of educational research that has rarely been applied to higher institutions. There is a phrase that gained wide currency during the war. It may be offensive to chaste academic ears, but is very expressive. It is "job analysis." Now job analysis has recently been effectively employed to determine the content of courses of training for all kinds of artisans. Is it impertinent to propose that it would be very useful in the field of profesional training also? If we could have a series of careful job analyses of the various professions, I venture to predict that they would be highly suggestive to those charged with professional education. Similarly, much of the confusion that now exists in the relation of the college to the professional schools could be cleared up by studies designed to reveal just what general information and what knowledge of special subjects are actually necessary for the several professional courses.

Here are the bare outlines of a program that promises large results, if any institution will conscientiously adopt it. I cannot alone commit the University of Buffalo to this program. But I shall endeavor to convince my colleagues of the desirability of undertaking it. At the same time I do not forget that a university does not float in a vacuum. It is conditioned by its constituency. The needs of the constituency come first. I am not advocating a sudden revolution. I have attempted rather to specify the objectives of a long experiment.

There are 586 colleges and universities in the United States. All are more or less committed to a single plan. Most of them are awed by agencies built up to enforce a mechanical standardization, restrained by traditions from embarking on new ventures. Has the University of Buffalo the courage to be different from the other 585? If my colleagues and the citizens of this community say "yes," a university may be developed here that will challenge nation-

wide attention. Nothing could more surely establish the leadership of the University of Buffalo among the institutions of the land.

Samuel P. Capen
University of Buffalo.

THE TEACHER AND THE TEST—A FOREIGN VIEW

Are Educational Tests intended for the benefit of the teacher? Recently a letter appeared in the columns of the Educational Supplement of the *Times* (London) expostulating at the suggestion that Mr. Cyril Burt's Scholastic Tests might be found useful in the class-room. The teacher, said this correspondent, was not so well supplied with guineas as to be able to buy the book, nor with time as to be able to use it.

C. Burt's Scholastic Tests were primarily intended for a psychological purpose, viz: the determination of the relative shares of intelligence and schooling in the production of Binet Simon grades. Some of them might certainly, however, be found very useful by the teacher, as useful as if they had been designed for no other purpose than his benefit; others perhaps are less useful. The surprising thing is that so many tests which are evidently *primarily* designed for the teacher are so little adapted to the teacher's conditions and needs. One feels, in reviewing the enormous mass of literature which has been published on this subject in the last twelve months alone, and the many tests which have accumulated, that an unfortunate divorce is taking place between the psychologist and the teacher, that if the teacher had been consulted in regard to these things which are presumably intended to help him, they would have been made differently. . . . It takes three qualifications to make a test, and they are not usually combined in one man: a statistician is needed, a psychologist, and a practical class-teacher. Too many of the tests at present before us have been devised by the first two while the third has not only been omitted from partnership in the work, but has often been forgotten in the enthusiasm of construction.

Parents often make toys for their children, and in the interest of making forget the child.

Cost[1]

The first and obvious point is cost. We are here endeavoring to adapt educational tests to assist us in the work of educating a great country: money may be less plentiful in India than elsewhere, but I can imagine no scholastic Utopia which can spend a dollar each time on testing a single subject in a single class. The teacher needs something which will indicate to him and to his pupils the amount of their progress. Suppose the test be only terminal, yet for a class of 50 tested the bill is:

Reading	$1.50
Arithmetic:	
Problems	.40
Processes	.75
Geography	.90
History	.40
Grammar	.40
	$4.30

for each terminal testing of one class or $5 after adding an Algebra or French test. One would like to know whether the ordinary public school of elementary or middle standard can afford $32 to $40 per term or $120 per annum (assuming 8 grades) for tests and, if so, what fraction is this of, for example, the school library allotment. In order to be really useful the tests should, as suggested above, be frequent, e. g. monthly (as is the Thorndike McCall Reading Scale). This brings the bill to $400 for an eight grade school or one dollar per child per annum, a sum equivalent to the annual cost of text books

[1] In regard to this same objection in China see *J. Ed. Res.*, IV, October 3, 1921, p. 235.

per child (Thorndike and Strayer, *Educational Administration*, p. 279).

One might of course argue that this is after all not so very extravagant a figure. It is, however, extravagant compared with the present cost of monthly or terminal tests of the old type—viz., almost nil. It is extravagant compared with what it might be, viz: very much less than it is.

These modern tests are most useful to the remote understaffed school, the school whose remoteness make comparisons difficult of standards and achievements with those of other schools; whose lack of staff makes it need badly some system which helps the teacher to keep a watch on the progress of children too numerous for close individual observation. To the wealthy town school with its small well-graded classes standard tests are a luxury: to the poor country school they are almost a necessity. Their cost is most prohibitive where they are most needed.

And that cost is unnecessarily high.

Thorndike, in his "New Methods in Arithmetic," makes various suggestion for minimizing "copying out" of sums: he suggests slips which can be laid alongside the printed problem. Similarly numbered sheeps of cheap paper corresponding with the test paper would be another simple and economical device; yet is there any standard test which endeavors to be economical of "printing out" in either of these ways. Rather the attempt seems to be to ensure that the question paper shall be thoroughly disfigured by one use so as not to be usable again,—like the tin lid on a soda-bottle. This is bad economy: if standard tests are to be a big thing it is no use keeping them wilfully expensive: to achieve their maximum usefulness they must be so cheap that a teacher need not think of running cost in deciding whether to test weekly, fortnightly, monthly or terminally.

Alternative Forms

The frequent test is obviously most useful. Yet how many tests permit of monthly application? Excluding those scales like those in handwriting which are unaffected by use, there are very few. One reading test has three forms, and one has ten forms; the majority have but one or two forms. Of three spelling tests there is but one form each, though there is of course the possibility of selection. (Starch's test is more adaptable). Algebra, geometry, history, geography, grammar, each has but one form. A test is not complete, however numerous the material of its standardization, however pretty its statistical manipulation, until it has sufficient forms properly equalized or graded in difficulty to be useful to a teacher for recording and checking the monthly or at *least* terminal improvement of his grade.

Tests Which Do Not Diagnose

One of the chief needs of a teacher is something which will help in diagnosis. An instrument which measured a compound of body temperature, blood pressure and one or two other factors in unknown proportions would not be a very useful means for diagnosis in the hands of a medical practitioner. Yet such is the nature of a number of our educational tests.[2] One wonders for example, why test-makers are so eager to combine speed and comprehension on a reading scale when the teacher's need is to know *which* of these two factors is at fault in a backward boy—Is it speed or is it comprehension? Is the boy a novel-skimmer who has formed the habit of reading so fast that he can not slow down for intensive study? Or is he a

[2] Starch: "It is difficult to say just what this scale measures," *Educational Psychology*, (1919), p. 353. See also M. A. Burgess: "Measurement of Silent Reading," p. 22, 23 on "Mongrel Scores."

plodder who can not speed up? In general the vaguer a test, the less useful to the teacher. The school supervisor or inspector may want a rapid vague measure of general proficiency in a subject, the teacher wants a detailed analysis. Hence the faultiness from the viewpoint of practical utility of the numerous exquisitely constructed tests of "Arithmetic Problems." They merely tell, in terms of P. E. or S. D. with much statistical refinement, a fact which the teacher knew perfectly well before viz: that John is backward in arithmetic. They offer no better facilities than those already possessed by the teacher for locating the fault. Is it that the boy can not think in abstract terms, confuses concrete and abstract numbers, is weak in translation of formulae, weak in memory for necessary rules, tries to use rules too much, or has never really mastered the idea of decimals, or the idea of ratios? "What," asks the teacher in despair, "is the use of telling me, correct to two decimal places that the child is ill if you do not help me to find out what is the matter with him?" C. Burt's suggestion of a series of handwriting scales for diagnosis of each of eleven factors noted in his schedule (*Mental & Scholastic Tests*, p. 310)[3] is a move in the right direction. A. I. Gates' articles, "An Experimental and Statistical Study of Reading Tests' (*Journal of Educational Psychology*, June 12 and November 8, 1921), and Wayman & Wendle "What Is Reading Ability" (*Journal Ibid.* September 9, *November* 21). "Measurement of Language" (*Journal Educational Resources*, IV, June 1, 1921) indicate the need of such moves.

The Efficiency-for-Life Test

There are two sorts of diagnostic tests needed—the analytic test, which helps a teacher to locate a fault in the psychological process of a school subject, and the efficiency-for-life test, which evaluates the results of a teacher's work in relation to real-life situations. There is still a good deal of transference-micawberism in education: we teach something different and hope that the thing we want will "turn up." Some of this is inevitable. The reading processes of life are too complex and varied for direct practice in the class room. Courtis (*Journal of Educational Research*, IV, November 4, '21) gives an incomplete analysis of them. In the schools we teach but two or three processes at most. We do not, for example, teach a child to find within the minimum time,—given a public reference library—the postage on two ounces register and insured for $10 to Massowah; or, assuming himself to be a jam- manufacturer, with a daughter suffering from eczema, money invested in rubber, gramophones, and La Paz electric railway to find "Is there anything of interest in to-day's newspaper?": time allotted—five minutes in a street car. We do not teach him to find the trap in the terms of a legal document, the full inwardness of a bylaw read with two others, and so on. We do not and could not teach these things: the school has to condense. Has it in condensing excluded the vitamines? We need a test which will tell us that—a test for pedagogic rickets.

"Difficulty in Tests

There is a certain lack of clear thinking from which the teacher could have saved the test-constructor, not because the teacher is himself a specially clear thinker, but because his profession makes him clear on certain points, otherwise he could not do his day's work. A statistician by means of a table of frequencies finds a comparison between the "difficulty" of the word

[3] See also in "Teaching of Handwriting," F. N. Freeman, 1914.

"Iguana," the difficulty of quality 11, handwriting on the Thorndike Scale, and of "The Sphynx" chess problem, white to play and mate in eleven, to a child age 10. Let us suppose that who or what Iguana is is known to one child in 900, that one ten-year old in 700 can write quality 11, and that one in 1,000 can solve "The Sphynx." Ruggs *Statistical Methods*, Table VI, page 396, gives the relative difficulties. On the basis of an argument of this kind certain "weights" are given to words in spelling and vocabulary tests, and these weights appear to be considered to be comparable to the weights given in an arithmetic test. Burgess, *The Measurement of Silent Reading*, writes as follows in regard to the difficulty scale (p. 82): "Ideally the scale for difficulty is reserved for measurement of ability in subjects where the amount of time has no effect upon the score. The independence of time must hold not only for the most difficult problems—but for the easy problems as well; so that on whatever task a child is working he can answer correctly at once or not at all.—A child can answer "at once or not at all" that an Iguana is a big lizard of terrifying appearance but harmless disposition, can write quality 11 "at once or not at all." can solve the Sphynx "at once or not at all."

This gives it away. The child happens to know or does not happen to know the word Iguana: most children age 10 in India know it: in New York or London the chances are 900 to 1 against a child knowing it, but there is nothing inherently difficult about it, there is nothing to prevent *any* child of 10 knowing it if he is told, *nor would any teacher protest on grounds of difficulty at the inclusion of this word in the ten-year old syllabus.* Probably very few children age 10 do write "quality 11," but given sufficient practice, probably at the cost of other subjects, many children might: it is a matter of time rather than of complexity, whereas *no* amount of time devoted to chess between the ages of 0 and 10 will product in any but a young prodigy the ability to solve the Sphynx. Nor would even the prodigy do it "at once or not at all." It would be a young Staunton who could do it in two minutes: whereas given an hour the mere prodigy might succeed.

The practical class-teacher might protest at the demand of quality 11 as 10-year old standard, maintaining that too much time would have to be devoted to the subject, whereas a proposal to include the elements of calculus on the grounds that it was of the same statistical "difficulty," (assuming that it actually was) would merely provoke his laughter. In the first case (Iguana) the frequency expressed merely probability, in the last case (calculus) it expresses possibility, and in the case of "quality 11" it is a mongrel measure of hard work and natural ability.

Statistical Intelligibility

The class teacher wants to know what tests mean. A review of recent publications in the *Journal of Educational Psychology* (VIII, January 1, 22) notes a decline in attention to fresh statistical methods. In certain respects this is a healthy symptom. The psychologist dealing with research into the nature of mental processes needs all the facilities of statistical method and may use them without fear of misinterpretation. The knowledge of statistics on the part of the teacher is ordinarily limited, and we ought to think twice before including as a necessary part of the interpretation of a test a statistical procedure which the teacher will not very fully understand: for if he cannot understand, he can not criticize. No sane teacher, not fogged by a text book on "Educational Measurement," would accept the difficulty

of a rare word and the difficulty of a difficult process of algebra as being comparable in any sense of the term, and the psychologist, to whom he would appeal as third partner in the group, would support him.

Do the simpler scoring methods and the unweighted score involve any loss of accuracy. In a recent article in SCHOOL AND SOCIETY[4] it is maintained that there is little loss of accuracy in the particular case considered. The present writer found by weighting the words in a vocabulary test inversely to their frequency a gain of less than a point in correlation with annual marks. Scoring the one way took half an hour per paper, scoring the other took one minute. Scoring the one way the teacher knows what the total means; scoring the other way he does not. Is the loss of time and intelligibility worth the gain in accuracy? Use a laboratory balance to weigh out bacon; it will take three times as long and the customer will not understand, and will probably think he has been cheated.

NEED OF THE TEACHER'S HELP

WE must take the teacher into partnership and ask his practical experience to judge of the worth-whileness of our methods of scoring—and of testing.

Consider the value of his advice as to the exact form of the "Composition Scale" he needs, what tests he needs most urgently and what can wait, what kinds of test have helped him, and what kinds have been useless.

There is a partnership of three in this science, but one of them seems to have got missed out. And we feel the lack of him.

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[4] XV, No. 378, p. 341: "The description of performances of pupils on exercises of varying difficulty."

TEACHERS' ETHICS AS VIEWED BY TEACHERS

THE FOLLOWING Code of Ethics was formally adopted by a unanimous vote of the Cincinnati Teachers' Association in June, 1922:

A. Relation to the profession and to other teachers.

1. Teachers should constantly seek to improve themselves in every way consistent with the conservation of their physical energy and efficiency.
2. Teachers must regard the actual work of instruction as the paramount interest and task of life.
3. All teachers should experience the broadening and humanizing effect of participation in civic and community affairs, and should make their own interest and influence felt.
4. There should be free exchange of new plans and ideas, informally and by publication, but with due credit to the real originators.
5. No teacher should ever criticize, or allow criticism of co-workers or predecessors, unless in a constructive way.
6. All teachers owe a large measure of positive support and enthusiasm to the school or group with which they work.
7. Every teacher, now as never before, owes it to his fellows and the profession to join and support actively, first the local democratic association, and others of like nature, such as the N. E. A.
8. All members of an association owe active support and aid to the officers and leaders whom they elect, especially full attendance at important meetings.
9. All the teachers of an organization must support, financially and legally, any member or officer who is being made to suffer for service authorized by the group.

B. Relation to educational superiors.

10. All teachers in a school or system owe complete loyalty aand support, in educational policies, to immediate superiors and to the superintendent.
11. A proper subordination and discipline must be combined with a democratic freedom to offer constructive criticism and suggestion.

12. A teachers' association should confer with the superintendent, by committee, on all questions involving the relation of teachers and superintendent, before submitting them to the school board or the public.
13. In the same way, no teacher should appeal to a higher authority over the head of an immediate superior until he has made every effort to bring about a mutual understanding.

C. Relation to parents and pupils.

14. Teachers must represent in apparel and conduct, both in school and outside, a fit ideal for the pupils under their charge.
15. All teachers should seek to establish friendly and frank cooperation, with parents and children.
16. Teachers must be absolutely sure to give every child a square deal, without any individual prejudice.
17. No teacher should ever accept pay for coaching a pupil from his own class.

D. Relation to the school board and the public.

18. It is the grave duty of the teachers to educate the public as to the fundamental importance of democratic education, and the needs and problems of the profession.
19. Teachers must emphasize the worth and dignity of their calling and maintain a progressive and enthusiastic professional attitude rather than a narrow, belligerent class consciousness.
20. Teachers should recognize school boards as employers and superiors, but also as fair minded gentlemen and co-workers in education, unless proven otherwise.
21. It is essential to avoid any entanglement with, or acceptance of favors from, book companies or other forces commercially interested in our schools.
22. Individually and collectively, we have every right to advance strong protests or recommendations, but the important public nature of our service renders any recourse to a strike or walkout indefensible.
23. Before signing any contract, individual teachers and the association should ascertain its exact meaning, and then live up to it implicitly, in letter and in spirit.

A true code of ethics must be not only a printed formula, to be read and forgotten, but should be a thing of life, an expression of the most common and immediate problems of the teacher's life and of the reactions of the thought of a large number of teachers to these questions, in actual experience. That the foregoing code fulfills these requirements is evidenced in its unanimous adoption by such a large group. In this day of group action, and organization for selfish ends, it is especially fitting that a profession on which rests the burden of leadership in social readjustment, should thus examine and proclaim the fundamental principles of its relationship to society.

In the light of some years of thought on these problems, there seem to be four phases of the teacher's ethical duty, in order of contact. Nearest and most apparent are his relations to his fellows and the profession, and next the proper attitude toward his official superiors in the school organization. Not less in importance tho not so soon realized in full are the instructor's duties to both parents and pupils. And, in view of the tendency toward influential and sometimes militant organizations of teachers, their relations to the public, and to the school boards as its representatives, must be scrutinized. Each one of the items of the code is so vital, and its statements so condensed that it seems advisable to explain, just as in the meeting at which the code was adopted, the implications of each sentence.

The call to continual self improvement is imperative, not for personal gratification or preferment, but for the sake of the profession and its work. Not only should the required standards of preparation be high, but each teacher in service, whether A. B. or M. A., must continue to develop mind and personality thru travel, wide reading, and graduate study or research. At the same time, it is easy, particularly in the case of summer courses to drive on at the expense of the fresh vigor and health requisite to effective classroom work.

And, if we really believe in the high

calling of the teacher, our lives should be devoted to its tasks with a continual sense of their primacy and worth. To avoid the narrowing effects of such devotion, and to make the profession of full value, teachers must, on the other hand, reach out into community affairs and movements as real factors.

Much of the evolution of educational methods must come, not from all wise experts, but through an exchange of plans and discoveries with fellow teachers. More of our teachers must find time for constructive research, and more of our articles on reforming the profession should emanate from those who, in the long run, must do the reforming.

The very conditions of a teacher's work seem to foster individualism, often expressed in free and acrimonious criticism. Unless in exceptional cases, tending to a definite constructive end, such indulgence harms, not only the victims and the critic, but gradually undermines general respect for and confidence in the group of which all are a part. On the positive side, we must all be boosters, active and enthusiastic supporters of the school or group with which we work. No equipment can take the place of esprit de corps.

The next three sections emphasize the importance and demands of teachers' organizations as a real duty to the group. Membership, attendance and loyalty are no longer simply a matter of inclination, but are demanded in allegiance to our fellow workers and the calling.

Lest this development of group consciousness be a detriment to a school system, it must never interfere with a loyal obedience wherever proper, to those whom the necessary direction and discipline, especially of a large system, may place in authority. At the same time we have a right to offer to these superiors and co-workers frank and free criticism and suggestion for the good of all. However, in all fairness, such appeals should not be made over the head of any recognized authority unless such recourse is a last resort.

Altho, unfortunately, the teacher today does not hold the place of prominence accorded him at one time, he is still a very real model and ideal to many children. This fact must be thoughtfully weighed both in relation to suitable attire, and to such problems as smoking and extreme forms of dancing.

In face of the partial collapse of parental authority in late years, a very positive effort on the part of every teacher to secure the cooperation of both pupils and parents is no longer merely desirable but is indispensible to restore a normal balance of understanding and responsibility. The teacher should know the home conditions, and the parent ought to know what the teacher expects. The only sure way to respect and cooperation from pupils is the "square deal" for all. In theory this is an axiom, but in practice nothing is more difficult than to avoid the almost unconscious influences of attractive or repellant appearance, of social antecedents, of race or color, and even of religion. One pitfall which tends, at its very best, to frequent misinterpretation, is the acceptance of payment for coaching a pupil under the teacher's charge. If sickness or dullness necessitate such help, it should be given by another teacher, who will not be faced with a delicate decision as to the result.

Lest our people forget one big lesson of the war, all teachers must be active propagandists, first for the cause of extended and suitable popular education and the elimination of illiteracy, and also as to the rights and problems of the profession entrusted with these tasks. In such appeals to the public, we must speak on a high

plane of dignity and leadership, rather than in a spirit either of cringing apology or injured belligerence.

Some recent organizations of teachers for economic improvement have drifted into an attitude of hostility toward their employers, the boards of education. This is not ethical, worthy, or expedient, for the only basis of real progress in our joint work is in frank cooperation, and we are usually met on about the plane of our own attitudes.

In many parts of the country, the influence of book companies and other commercial interests has become so notorious that the teachers everywhere must be on their guard.

The last two declarations of our code are very timely, and their acceptance by so large a group of teachers is significant. Teaching is a profession, not a trade, and as vital to the mental health of any community as is the medical profession to its physical safety. Hence, teachers' strikes are no more defensible than would be an organized physicians' strike. This means however, that we must be granted free and fair hearings by the public and its representatives on any protest, and our right to some share in the determination of policies affecting our life work must be recognized.

A teacher must consider a contract just as sacred as any business man, or more so, for he should live on a very high moral plane. All contracts should be submitted in time to allow full consideration and analysis, and teachers' associations should reject and condemn unfair or ambiguous provisions. But when signed, they should be carried out in letter and in spirit, for they represent the honor of a profession.

We are hoping, in Cincinnati, to make this code and its principles a real factor in the life of our schools. It was intended to guide the novices, entering our ranks, and to renew and vitalize the ideals of those now in service. Its form and content are by no means perfect or final, but it does represent in some degree, the ideals and aspirations of one of the oldest and what should be one of the noblest professions.

C. M. HOWE

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EDUCATIONAL NOTES AND NEWS

THE ANNUAL MEETING OF THE COLLEGE ENTRANCE EXAMINATION BOARD

A MARKED increase in the number of candidates making ratings of 60 per cent. or more in the examinations of the College Entrance Examination Board this year was reported at the annual meeting of the board, held on November 4 at Columbia University. The general result of the examinations taken this year by the "old plan" candidates was the most favorable in the 22 years of the board's history, 62 per cent. of the ratings of all old plan papers, or books as they are termed, being between 60 and 100. The best prior result was in 1904, when 60.1 per cent. of the ratings fell between these intervals.

In English the percentage of books on "reading" was 52.1 for 1922 as compared with 39.9 in 1921; on "study" 63.0 as compared with 56.4; on both reading and study 48.2 as compared with 45.5; and, in the comprehensive English examination, 58.4 as compared with 50.0. In history there were increases as follows in 1922 results over 1921 results on the 60-100 basis: Ancient history, 9 per cent. increase; medieval and modern history, 10.4 per cent. increase; modern history, 3.6 per cent. increase; English history, 6.4 per cent. increase; American history, 5.7 per cent. increase; civil government, .1 per cent. increase; American history and civil government, 15.0 per cent. increase; comprehensive history examination, 2.4 per cent. increase. In Latin grammar, composition, etc., the increase on this basis ranged from 2.5 per cent. to 32.2 per cent. In one subject—fourth year Latin—there was a decrease of 9.1 per cent. The

increases on this basis in French were 6.6 per cent. for two-year French, 5.7 per cent. for three-year French, and 8.3 per cent. for four-year French. There were similar increases in Spanish and in German (except four-year German), and in biology, chemistry, freehand drawing, geography, physics and zoology.

The main exception to the general result was in mathematics. On the basis of 1922 ratings of 60 to 100 as compared with 1921 ratings there were decreases as follows: Elementary algebra, 11.8 per cent.; algebra to quadratics, 11.5 per cent.; quadratics and beyond, 6.9 per cent.; advanced algebra, 4.7 per cent.; plane and solid geometry, 4.3 per cent.; trigonometry, 10.2 per cent.; plane trigonometry, .1 per cent. The increases in mathematical subjects were: plane geometry only, 2.4 per cent.; solid geometry only, 18 per cent.; elementary mathematics, 10.5 per cent.; elementary and advanced mathematics, 21.0 per cent.; advanced mathematics, 6.7 per cent. In botany ratings on this basis there was a decrease of 19.1 per cent., and, in mechanical drawing, a decrease of 24.1 per cent.

The explanation for "this striking and gratifying improvement in examination results" is three-fold, according to Dr. Wilson Farrand, headmaster of the Newark Academy and chairman of the committee on examination ratings, who pointed out the foregoing statistics at the board meeting. The first factor was given as being the improved teaching in secondary schools, now that the schools have recovered from the effects of the war. A second point of explanation was that the questions were "a little simpler and easier" (Dr. Farrand read opinions of readers in history upon this aspect and upon their emphasizing more than heretofore the biographical and less the philosophical elements in history papers). A third possible factor was mentioned as being the more serious preparation made by those taking the examinations in view of the increased fee. There "were probably fewer students of less earnest type 'taking a flyer' at the examinations."

In connection with this last named aspect Secretary Thomas S. Fiske told the board that the number of candidates—about 18,000—was almost exactly the same as in 1921, and that the lack of the usual increase may have been due to raising the fee from $8 to $9. The actual cost for each candidate has been found to be $8, leaving what Dr. Fiske termed "not a large margin of safety."

The financial statement for the year showed a total income of $182,573.11, including $3,400 from annual dues and $171,113 from examination fees. Total expenses were $148,641.95, which included salaries of readers, $51,975.14, salaries of supervisors and proctors, $11,960.89, salaries of examiners, $1,715.84, and expenses of readers, supervisors, proctors and examiners, $21,028.86.

Later in the meeting, Dr. Clyde Furst, of the Carnegie Foundation, gave a preliminary report upon the investigation which Trevor Arnett and he are making as to the business and financial management of the board upon request of the board. Dr. Furst said that recommendations as to certain details will be presented later, but that the investigation shows that "seldom have we found an organization so well designed to carry out its purpose and almost never have we found an administration so economical."

Professor R. N. Corwin, of Yale University, chairman of the committee of review, announced that the reports of the mathematics commission and the history commission, which are preparing revisions of the definitions of requirements in these subjects, will be made special orders at the meeting of the board next April. The committee was authorized to appoint a commission to define requirements in music. A music examination may be reinstituted; it was discontinued some years ago because of lack of use. Prescribed readings in Latin for 1926-28 were approved, as was the English requirement for 1926-28 adopted by the National Conference in Uniform Requirements in English.

Of interest was Professor Corwin's presentation of the review committee's recommendation against conducting aural examinations in modern languages. The commission on these examinations presented a plan at the meeting of the board last April for having such tests at certain important centers. The judgment of the committee of review was that, "while aural

examinations are highly desirable, it is inexpedient to introduce a system that can not be administered uniformly." Dean Howard McClenahan, chairman of the board, referred to "the suggestion of an up-to-the minute member of the committee that the aural examinations be broadcasted." The committee of review approved of the preparation by the board of aural examinations which the modern language departments of member colleges might themselves conduct. The board passed unanimously the recommendation of the committee.

Dr. Farrand, after reporting upon the good results of the 1922 examinations as related at the beginning of this article, declared that the committee on examination ratings did not regard as successful the experiment of converting into percentile-ranks the marks reported by the readers. "This device did not give in convenient form what was desired, and it led to much confusion among parents and candidates." The committee favors instead "the preparation and immediate publication after examinations of a table showing the percentage of all candidates who fall below a certain grade."

The attempt of the committee to investigate the reliability of the ratings of the readers in English, as was done last year by Ben D. Wood for the ratings in algebra and in geometry, did not succeed, Dr. Farrand reported. To carry out for English the procedure followed for mathematics was regarded by the readers as upsetting the principle and practice established and carried out for years. The readers now make notations upon the examination books as they read and they assign a rating to each question; but each book is rated as a whole. They regarded the proposed procedure as making their work a mechanical matter.

Dr. Farrand presented the committee's recommendation that the board should publish, as an experiment, a book giving in classified order all of the questions in English examinations since the foundation of the board in 1900. Stanley R. Yarnell, head master of the Germantown Friends School, cautioning that "this may be the beginning of a Chinese classic system," urged that the introduction of the book should state that the questions are suggestive only and that each question should be dated to make it clear that recent examinations differ with advancing standards in the teaching of English. The board voted, 19 to 12, to publish the questions.

Professor A. L. Jones, of Columbia University, chairman of the committee on examination schedule, told of the effort being made to overcome conflicts in Spanish and German examination dates; sharing the available time appears to be the best solution.

Reporting for the commission on new types of examinations, Walter R. Marsh, head master of St. Paul's School, Garden City, L. I., N. Y., said that the commission has forwarded copies of the new type papers in algebra and ancient history, prepared by the Institute of Educational Research of Teachers College, to secondary schools which in 1921 had sent fifty or more candidates to the board's examinations, with the request that they subject their pupils to these tests. In the schools which have thus far reported there has been a high correlation, Mr. Marsh said, between the results of the new type examinations and the final school records for the year of the students taking the examinations.

Dean Frank W. Nicolson, of Wesleyan University, in presenting the report of the committee on nominations, stated that the custom of nominating new officers every three years was not followed now because there were activities in progress begun by the present officers which it seemed best for them to carry through. The board unanmously re-elected the following officers and executive committee for 1922-23: *Chairman,* Dean Howard McClenahan, Princeton University; *vice-chairman,* President Mary E. Wooley, Mount Holyoke College; other *members of executive committee,* N. Henry Black, Boston, Professor R. N. Corwin, Yale University, Dr. Wilson Farrand, Newark Academy, President F. C. Ferry, Hamilton College, Professor A. L. Jones, Columbia University, Henry Pennypacker, Harvard University, Professor H. W. Tyler, Massachusetts Institute of Technology; *secretary and treas-*

urer, Professor T. S. Fiske, Columbia University.

RAYMOND WALTERS
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CALIFORNIA COURTS AND THE BIBLE IN THE SCHOOLS

THE King James version of the Bible is barred from use as a school text in the public schools of California by a ruling on November 1 of the District Court of Appeals at San Francisco. Mr. Justice Nourse, who wrote the opinion, holds that the King James Bible is the book of the Protestant religion and is therefore sectarian.

Parts of the court decision, as quoted by the Associated Press, are as follows:

While Protestantism may not be a "sect" in the strict interpretation of the term, the Protestant Bible contains the precepts of many of the Protestant denominations, and "denomination" is merely another term for "sect." Controversies have been waged for centuries over the authenticity of the various translations of the Bible, each sect insisting that its version is the only inspired book.

As a result of this controversy, men fail to consider any Bible for its literary or historical value, but bar all from the schools, for fear that their children might absorb some doctrine adverse to the teaching of their own denomination.

The King James Bible, having been adopted by Protestants as their book, is objectionable to those who do not follow that faith. It is thus a book of a sectarian or denomination character within the meaning of the political code.

The sole question for determination was whether the King James version of the Bible was a sectarian or denominational book. On this appeal it was argued that the use of school money for the purchase of Bibles is prohibited by the constitution and statutes of California. Statutes from the political code were cited that provide "It shall be the duty of boards of school trustees to exclude from school and school libraries all books, publications or papers of a sectarian, partisan or denominational character."

Also quoted were the sections of the code that provide that "no publication of a sectarian, partisan or denominational character must be used or distributed in any school or be made a part of any school library, nor must any sectarian or denomination doctrine be taught therein."

INAUGURATION OF CHANCELLOR CAPEN AT BUFFALO

SAMUEL PAUL CAPEN, formerly specialist in higher education in the United States Bureau of Education and more recently director of the American Council of Education, was inaugurated chancellor of the University of Buffalo, at Buffalo, N. Y., on October 28. The installation ceremonies were attended by several hundred delegates from all parts of the United States and from Canada. At the installation exercises Walter P. Cooke, acting chancellor, turned over the keys of the university to Dr. Capen; members of the faculty and council of the university and a spokesman for the alumni body, Dr. Charles P. Cary, welcomed the new chancellor; Sir Robert Falconer, of the University of Toronto, brought the greetings of Toronto and other Canadian universities, President Livingston Farrand, of Cornell, spoke for American universities and President Frederic C. Ferry, of Hamilton, for American colleges, and Governor Nathan L. Miller welcomed the new chancellor in the name of the State of New York. Congratulatory speeches were followed by Dr. Capen's inaugural address as chancellor.[1] Later in the afternoon Rotary Field, the gift of the Rotarians of Buffalo, was dedicated.

On the day preceding the installation a new half-million dollar chemistry building—Foster Hall, the gift of Mr. O. E. Foster, of Buffalo, and members of his family—was dedicated with appropriate ceremonies. The outdoor exercises were followed by addresses within the building by Dr. Edgar Fahs Smith, president of the American Chemical Society, and E. E. Slosson.

The two-day celebration was concluded with the inaugural dinner, held at one of the Buffalo hotels, at which addresses were made by George D. Crofts, treasurer of the university; President Rush Rhees, of the University of Rochester; President I. N. Hollis, of Worcester Polytechnic Institute, and Dean Kendric C. Babcock, of the University of Illinois.

[1] See page 533 of this issue.

AMERICANS AND THE DOCTOR'S DEGREE IN FRANCE

THE minister of public instruction of France recently issued an order giving a list of the foreign university degrees which would enable an applicant to seek the doctor's degree awarded by the French state on the same footing as licentiates of law, science, or arts. The French chargé d'affaires at Washington has just sent to Secretary of State Hughes a letter asking the secretary to "let these very liberal measures be known in American university centers," and enclosing a copy of the order of July 24, 1922, which reads as follows:

On the strength of the order of February 15, 1921;

On the motion of the special commission established by the department order of March 2, 1921, to carry out Article 3 of the above-mentioned order.

With the advice and consent of the Superior Counsel of Instruction,

ORDERS:

Applicants for the doctor's degree who may prove that they hold the following degrees or diplomas, which in this respect are recognized as being equivalent or higher, are exempted from the requirement of producing the diploma or licentiate:

LAW

United States:

Applicants presented by one of the universities named in the appended list and holding the degree of A.M., delivered by a faculty of political science with a view to the degree of doctor of political science.

SCIENCE

United States:

Applicants presented by one of the universities named in the appended list and holding the degree of A.M., or of doctor of philosophy, or a certificate showing that they have taken a course of at least two years in preparing for the degree of doctor.

LETTERS

United States:

Applicants presented by one of the universities named in the appended list and holding the degree of A.M., or of doctor of philosophy, or a certificate showing that they have taken a course of at least two years in preparing for the degree of doctor.

The list of institutions referred to includes only the membership of the Association of American Universities.

TO ENDOW SIX COLLEGES FOR WOMEN IN THE ORIENT

ENDOWMENT of six colleges in the Orient devoted entirely to the education of women is the object of a non-sectarian movement now under way in both the United States and Great Britain, as reported in press dispatches from Washington November 2.

It is the hope of those interested in the movement to have a fund of $3,000,000 available in the near future for the acquisition of suitable sites, buildings and equipment. A gift of $1,000,000 from the Laura Spellman Rockefeller Memorial Fund has been promised, conditional on the raising of $2,000,000 from other sources.

The colleges which it is proposed to aid are located in Tokio, Japan, Peking and Nanking, China, and in Lucknow, Madras and Vellore, India. Two of them are medical schools, those interested in their welfare pointing out that there is a pressing need in the Orient for women physicians.

Missionary societies and organizations of college alumnæ and clubwomen throughout the country have united in assisting the endowment movement. Through $1 subscription it is hoped that on Saturday, December 9, enough money will be raised to insure receipt of the Rockefeller Fund gift. Sixteen religious denominations in this country and Great Britain are pledged to support the institutions.

ELI WITWER WEAVER

ELI WITWER WEAVER, a pioneer in the vocational guidance movement, died at his residence in Brooklyn, N. Y., on November 1.

Mr. Weaver was 60 years old. He was born in Churchtown, Pa., and studied in Pennsylvania and New York, subsequently serving as superintendent of schools at Paris, Bellevue and Carrollton, Ky. In 1900 he went to New York City and joined the staff of the Boys' High School of Brooklyn, where he remained until 1919.

Mr. Weaver was the author of numerous

books and pamphlets on vocational guidance, including "Profitable Vocations for Boys," "Profitable Vocations for Girls" and "Medicine as a Profession."

Mr. Weaver is survived by his widow, four daughters and three sons. Two of his sons, Luther O. Weaver and Lieutenant John H. Weaver, lost their lives in the European war.

EDUCATIONAL NOTES AND NEWS

DR. MIKINOSUKE MIYAJIMA, representative of the Japanese government on the Health Council of the League of Nations, who has been making a study of public-health education in the United States, was the guest of honor at a dinner given by the Rockefeller Foundation at the Yale Club, New York City, November 1. Among the guests were the New York State health commissioner, Hermann M. Biggs, Dr. William F. Snow, Dr. Hideyo Noguchi, Dr. C. R. Stockard, Dr. E. V. Cowdry, Herbert S. Houston and Dr. F. H. Dieterich. President Vincent, of the Rockefeller Foundation, presided.

MISS CHARL O. WILLIAMS, former president of the National Education Association, and Mr. J. O. Engleman, superintendent of schools of Joliet, Illinois, have been added to the staff of the Washington headquarters of the association as field secretaries, "to continue and further develop the activities carried on by Mr. Hugh S. Magill."

DR. WILLIAM SPENCER CURRELL, who resigned recently as president of the University of South Carolina, is serving as dean of the graduate school of that institution.

DR. GERALD L. WENDT, associate professor of chemistry at the University of Chicago, has resigned to join the research staff of the Standard Oil Company of Indiana.

DEAN H. J. HUGHES, of the Harvard Engineering School, is on the program for a paper at the Fourth International Road Congress, to be held in Seville, Spain, next year.

OXFORD UNIVERSITY on October 24 conferred the degree of doctor of letters upon Professor James H. Breasted, chairman of the department of Oriental language and literature and director of the Oriental Institute at the University of Chicago.

MISS ELEANOR PHILBROOK CUSHING, a member of the teaching staff of Smith College for 40 years, has been made professor emeritus of mathematics by the board of trustees of the college. Miss Cushing was a member of the class of 1879, the first to be graduated at Smith. One of the new dormitories, which has just been opened, is named in her honor.

MEMBERS of the faculty and alumni of the University of Chicago recently raised a fund for a portrait of Professor A. A. Michelson, for 30 years head of the department of physics.

ROBERT WHEELER WILLSON, professor emeritus at Harvard, where he was in the department of astronomy for many years, died on November 1 at Cambridge. He was 69 years of age.

JOHN B. PINE, trustee of Columbia University for 32 years, died in New York City on October 28. He was 65 years of age. Mr. Pine was the founder and first editor of the *Columbia University Quarterly* and author of a history of the university.

PROFESSOR LUECO GUNTER, for a number of years rural school inspector in South Carolina, and more recently professor of education at Furman University, died at Greenville, S. C., September 1.

INSTRUCTORS, students and alumni of the Jewish Theological Seminary of New York, took part in exercises last week at which a tablet was unveiled in memory of Jacob H. Schiff, who was active in promoting the welfare of the seminary.

THE fifth annual country life conference was held at Teachers College, Columbia University, on November 10, with an attendance of education, state and government officials and civic and religious leaders from many states.

DIRECTORS of Delaware Service Citizens, an organization with headquarters at Wilmington, recently voted $12,000 as working capital for the University of Delaware Press.

THE annual report of the Rockefeller Foundation, made public last week, gives details as to how more than eight million dollars was spent in 1921 in the "movement for preventing disease and bringing about improved conditions of health." A paragraph relating to gifts for medical education reads as follows:

In 1921 aid was extended to five medical schools in Canada, one in England, one in Belgium, and one in the United States. In China a modern medical school in Peking was supported in full and three other medical schools, five pre-medical schools, and twenty-nine hospitals were aided. Two million dollars were given to Harvard for a school of public health, and a school of hygiene and public health at Johns Hopkins University, and courses in hygiene at Sao Paulo, Brazil, were supported.

THERE are 94,640 pupils on part time in the elementary schools and 58,770 in the high schools of New York City, as shown in the reports of the city principals for September. While Manhattan and the Bronx show decreases of 2,724 and 5,745, respectively, from September, 1921, in the number of part time pupils in the elementary schools, Brooklyn has an increase of 11,929, Queens of 4,120 and Richmond of 907, making a total net increase of 8,487 for the city.

THE American Society of Mechanical Engineers will have its annual meeting in the Engineering Societies Building, New York City, December 4 to 7. The society has student branches in 62 colleges, universities and technical schools.

A MEMORIAL tablet to the late Colonel Frank A. Barton, Cornell '91, for many years commandant of the Reserve Officers' Training Corps at Cornell University, will be unveiled to-day at the Armistice Day exercises at Cornell.

THE class in statistics of Professor G. H. Tapley in the Tuck School of Business Administration at Dartmouth College is making an investigation of how 200 typical undergraduates at Dartmouth utilize their time.

THE annual meeting of the Arkansas State Educational Association was scheduled for Little Rock November 9, 10 and 11. Among the speakers expected on the program were Professor Charles Forster Smith, of the University of Wisconsin; Dr. John J. Tigert, United States commissioner of education; Dean Frederick J. Kelly, of the University of Kansas, and President John C. Futrell, of the University of Arkansas.

GROUND has been broken for a new laboratory of the department of hygiene and bacteriology at the University of Chicago to cost $50,000.

LEGISLATION that will permit the showing of motion pictures in schools under somewhat less stringent regulations than those which prevail in theaters is sought by the Visual Instruction Association of America. Ernest L. Crandall, director of visual instruction, has appointed a committee to devise ways of taking the matter up with legislative bodies.

DETROIT will be host, November 29 to December 2, to four organizations which will hold a joint convention there, the National Society for Vocational Education, the Vocational Education Association of the Middle West, the American Home Economics Association, and the National Vocational Guidance Association. The general session will be opened by Superintendent Frank Cody, who will welcome the delegates and invite their inspection of the vocational work in the schools. Other speakers who will address the general session are: Matthew Woll, vice-president of the American Federation of Labor, whose subject will be "Cooperation with labor"; Harry D. Kitson, professor of psychology at Indiana University, who will explain the "Vital necessity for vocational analysis," and Charles A. Prosser, director of Dunwiddy Institute, Minneapolis, who will give "A philosophy for part-time education, its source, purpose, meaning and justification." European continuation schools will be discussed by R. L. Cooley, the director of the Continuation School, Milwaukee. The sectional meetings include industrial home economics, vocational guidance, industrial rehabilitation, agricultural education and commercial conferences.

THE Joint Administrative Board of Colum-

bia University and the Presbyterian Hospital of New York City announce that the site for the new Medical Center has been transferred to the university and the hospital. The site extends between 165th Street and 168th Street, from Broadway to the Hudson River. It is in excess of twenty acres and is valued at about $4,000,000. It was given by Mrs. Stephen V. Harkness and Edward S. Harkness. Further announcement was made of the completion of the agreement between the Presbyterian Hospital, Columbia University and Mrs. Harkness, as donor, for the transfer of a fund of $1,300,000 to Columbia University for the endowment of educational and scientific work in the School of Medicine and the Presbyterian Hospital. Additional gifts by Mr. Harkness also were announced of $1,000,000 toward the construction of the new Presbyterian Hospital and $1,000,000 to Columbia University for the School of Medicine.

Approximately 500 new teachers are to be appointed to begin service in the New York City public schools on November 13.

The Ames Prize, awarded by the faculty of the Harvard Law School at intervals of four years for "the most meritorious law book or legal essay written in the English language and published not less than one nor more than five years before the award," has been awarded for 1922 to William Warwick Buckland, Regius professor of civil law at Cambridge University, England, for his volume, "A Textbook of Roman Law," published in 1921. The Ames Prize consists of a bronze medal and five hundred dollars, drawn from the income of the James Barr Ames Prize Fund established by Judge William W. Mack.

The Interborough Association of Women Teachers of New York City recently voted to have introduced at the coming session of the New York State legislature a bill making the average salary of the last five years prior to retirement allowance instead of the last ten years, as is now provided.

At a recent meeting of the Education Committee of Liverpool, England, it was reported that there are in the city 164 elementary schools, having 138,493 on the rolls, with an average attendance of 122,884, the non-provided schools having about 5,000 more scholars than the council schools. The average attendance of 91 per cent. for the city for the past six months was the highest ever reached for that period. The teaching staff of these schools numbered 3,606, which (excluding head teachers and student teachers) gave an average of one adult teacher to every 41 scholars.

There are about 40,000 Chinese in British Columbia. In the city of Victoria, Vancouver, where 19,000 children attend the public schools, approximately 1,000 are Chinese. A difficult situation has recently developed in Victoria with regard to the attendance of Oriental children in the regular classes. As stated by the Vancouver correspondent of the *Times Educational Supplement*, school principals and parents complained that the Chinese children's lack of understanding of the English language in many cases retarded the progress of the white children and the school trustees accordingly established separate schools for Chinese. Prominent Chinese residents protested that segregation of this kind was illegal and unjust. Despite opposition, the trustees persisted, but made a rule, applicable to all backward children of a certain age, that pupils whose lack of knowledge of English retarded their progress should attend special schools. The Chinese refused to allow their children to attend the special schools. Leading Chinese now threaten to organize a commercial boycott and to open Chinese schools of their own if they are, as they put it, prevented from attempting to become assimilated by attending the white children's schools. The reply of the school board has been to deliver an ultimatum that unless Chinese children attend the special schools within a certain period they will be closed, and there will be no opportunity for Chinese children to register for any schools at all until next January.

In honor of Sir John Struthers, the former secretary of the Scottish Education Department, meetings of teachers and others were held recently in Edinburgh at which Sir John was admitted to the roll of honorary members of

the Merchant Company and was made an Honorary Fellow of the Educational Institute of Scotland. A presentation portrait of Sir John by Mr. Maurice Greiffenhagen, R. A., was unveiled. Professor Darruch, of the University of Edinburgh, said Sir John Struthers had been instrumental in developing a new system for the training of teachers in Scotland; Lord Alness said that his name was a household word in Scotland.

AT a recent meeting of the Education Committee of Liverpool, England, it was reported that there are in the city 164 elementary schools, having 138,493 on the rolls, with an average attendance of 122,884, the non-provided schools having about 5,000 more scholars than the Council schools. The average attendance of 91 per cent. for the city for the past six months was the highest ever recahed for that period. The teaching staff of these schools numbered 3,606, which (excluding head teachers and student teachers) gave an average of one adult teacher to every 41 scholars.

SPECIAL CORRESPONDENCE

PERSUADING CLEVELAND CHILDREN TO "STAY IN SCHOOL THROUGH HIGH SCHOOL"

PERHAPS the most remarkable phenomenon in public education during the past three years in Cleveland and throughout America has been the amazing increase in the number of boys and girls enrolling for a high school education.

In Cleveland this increase has been more pronounced, so far as available statistics show, than in most other urban communities in the country. Our high school buildings have been forced to utilize every make-shift and expedient in schoolhousing and class scheduling to care for numbers vastly exceeding the normal capacity of the buildings. In February, 1922, the senior high school enrollment of the city was approximately 16,400, which represented a gain of 40 per cent. over the 11,700 enrollment of September, 1921.

Many educators attribute much of the great increase in high school and college attendance in all parts of the nation to effects of the mobilization during the war of the "selective service" army. The "selective" process placed such emphass upon the value of education that millions of families were brought as never before to a recognition of this value.

Other factors undoubtedly have had a share. The junior high schools, initiated in Cleveland in 1915 and housing at the present time about half of the seventh, eighth and ninth grade pupils, have exercised a holding power, keeping in school many who would have dropped out at the completion of the work of the old fashioned eighth grade.

Legislation adopted at Columbus in the winter of 1920-21 raised the school attendance age from 14 to 16 years. The effects of this are seen in increased junior high rather than increased senior high attendance.

Business depression, some assert, kept in high school many children who, were the times prosperous, would be employed.

But unquestionably the main cause of the phenomenal growth of the high school's popularity has been the recognition of the value of the high school education.

Notwithstanding limited housing facilities for the secondary school students, the Cleveland Board of Education has carried on a campaign to make such recognition even greater in its scope. With this a special effort has been made to help pupils and prospective pupils select high school courses with an intelligent understanding of the distinctions between technical, commercial and academic lines and of the important relationship between high school studies and the work and problems of post-school life.

Responsibility for the carrying on of these efforts has rested in considerable measure upon the director of publications. A general campaign emphasizing the advantages of going to high school was begun in the spring of 1921.

The daily newspapers of the city cooperated by carrying editorials on the subject giving high school education their strong approval. Some of the high school newspapers published editions for dissemination among the eighth grade pupils. High school pupils talked before groups of eighth and ninth graders, drawing from their own experience to paint the picture of high school education.

The outstanding effort of the campaign may be seen in a forty-eight page book with the title *Give Yourself a Fair Start*, compiled and edited by the director of publications. This is attractively printed and generously illustrated with dozens of photographs showing scenes typical of high school work, social life, sports and other extra-curriculum activities. Together with the photographs and explanations of high school activities are testimonials written for the most part by former students of the Cleveland high schools. These are more convincing than treatises and sermons in emphasizing that education is essential to those who would succeed in life.

Throughout the book there is a definite vocational guidance trend. An effort is made to show the connection between the studies pursued in high school and the activities and responsibilities of post-school life.

Give Yourself a Fair Start represents the application to the public high schools of the principals of commercial advertising. For many years private business colleges have been making much use of advertising to induce grammar school graduates to take short business courses. In many cases these private courses are so short and inadequate that they can not possibly prepare boys and girls for successful commercial careers. There are many excellent private business schools, but there are also many which mislead prospectve students and give them a most inadequate substitute for a high school education. The unfortunate experience of many children in this connection emphatically suggests that all, before completing the eighth grade, should come to know that a short course in a "business college" cannot take the place of a four year high school education. *Give Yourself a Fair Start* attempts to make the distinction clear and definite.

Every boy and girl in the eighth grade receives a copy of *Give Yourself a Fair Start* several weeks before the close of the eighth school year. The book is the pupil's property to do with as he pleases.

It is first carefully read in class, following which it becomes the basis of discussions of high school courses. Then it is taken home so that the parents may read it and talk over with their children the high school problem. In both the high schools and the junior high schools the book is used in vocational guidance work, especially in cases of children who are thinking of withdrawing from school. It has served to keep many in school to complete their courses.

The first edition of the book appeared in May, 1921. The cost of publishing, not counting overhead expense, was $2,200.00. Copies were given to approximately 6,550 boys and girls. For copies sold to other Boards of Education and to educators and persons outside of Cleveland a charge of 35c was made. Later this was increased to 50c. Hundreds of calls came for copies and it seemed fair that outsiders should pay to the Cleveland Board of Education a just share of overhead expense plus the charge of distribution.

In May, 1922, a second edition was printed at a cost of $880. This contained revisions to bring the book up to date. A good part of the increase in high school attendance during the past year may be attributed, it is thought, to the influence of *Give Yourself a Fair Start*. In February, 1922, there were thirty-seven per cent. more pupils in the Cleveland high schools than in September, 1921, an unprecedented increase. From available statistics it appears that few, if any, cities in Ohio or elsewhere in America have had such an increase, great as the tide towards high schools has been the country over.

The effort to convince both parents and children of the advantages of a high school education must be continuous, especially in Cleveland where 65 per cent. of the children are of parents who emigrated from Europe. In February, 1921, only 6.2 per cent. of the children in the Cleveland public schools were enrolled in grades ten, eleven and twelve; 93.8 per cent. were enrolled in grades below. In February, 1922, 6.9 per cent. were enrolled in grades ten, eleven and twelve. This proportion, high for Cleveland, is very small when compared with communities having a high percentage of native born Americans in their population.

CLYDE R. MILLER

BOARD OF EDUCATION
CLEVELAND, OHIO

EDUCATIONAL RESEARCH AND STATISTICS

POSSIBLE TRANSFER VALUE OF THE STUDY OF LATIN TO ENGLISH VOCABULARY

ONE of the strongest supports for the presence of Latin in the high school curriculum is the possibility of transfer from the study of Latin to the students' English vocabulary. The argument in brief is that one who studies Latin gains thereby in the development of his English vocabulary. In a recent article,[1] E. Earle Franklin offers experimental evidence of the derivation of 5,000 words of the *Thorndike Teachers Word Book*, as a measure of "the part which Latin may play in providing the vocabulary which should be attained by a pupil during the high school period. . . ." This article is a somewhat more extensive treatment of the same problem.

The value of Latin in developing one's vocabulary is limited not only by the percentage of English words derived from Latin but also by the possibility of transfer from the Latin to the English as determined by such elements as similarity of form, similarity of meaning, and perhaps number of derivatives.

To determine the percentage of Latin derived words a random selection was taken of words in the *Thorndike Word List* as shown in Table I.

The last 750 words in the table are not in the *Thorndike Teachers Word Book*, but appeared after the ten thousandth word in the count from which the list was constructed.[2]

TABLE I

No. of Words	Credit in Thorndike *Teachers' Word Book*	Approximate place in *Word Book*
50	211-75	First 500
100	75-49	501 to 1,000
100	49-36	1,001 to 1,500
250	29-30-31	end of 2,000
250	10	end of 5,000
250	7	end of 7,000
250	4	end of 10,000
250	2	second 10,000
250	1	second 10,000
250	0	30,000 to 80,000
Total 2000		

[1] E. E. Franklin: SCHOOL AND SOCIETY, XV, p. 622.

[2] Thorndike, E. L.: "Word Knowledge in Elementary School," *Teachers College Record*, XXII, No. 4, p. 334.

The table reads "50 words were chosen having credits ranging from 211 to 75 and they are in the first 500 for frequency; 100 words of credit 75 to 49 included in the second 500 words in the list, etc."

The words were chosen from the list by taking in one case every fourth word of the given credit, in another case every second and fifth word, etc.; except that in the case of the words of credit zero the words were chosen only from among those beginning with b, c, e, i, j. l. m, n, o and r, there being approximately 50,000 words to choose from.

Murray's *Dictionary*, supplemented by Lloyd's *Encyclopedic Dictionary* and Anton's *Classical Dictionary*, was used to determine the derivations. The following table gives the percentage of the words, in each of the above groups, derived from Latin.

TABLE II

Credit	Percentage derived from Latin
211-75	16
75-49	35
49-36	48
29-30-31	44
10	48
7	44
4	48
2	60
1	57
0	51

The fall in the percentage of Latin derived words in the last group may be due to the method of choosing the words.

The uniformity of percentages in the several groups referred to by Mr. Franklin[3] is evident here also for groups of credits 49 to 4 inclusive, and perhaps likewise for words beyond the 10,000 included in the Thorndike *Teachers Word Book*.

To determine the possibility of transfer, the writer obtained the judgments thereon of 10 people, including himself. The judgments come under two headings, (1) the 1,000 words of credits 30 to 4 inclusive, which were first studied separately, (2) the 1,000 words of credits 211 to 36 and 2 to 0 which were added to the study later.

The judges were presented with a list of the Latin-derived words with the derivations of these, and were asked to judge the extent to

[3] *Opp. cit.*

which transfer might occur, from a knowledge of the meaning of the Latin original to an understanding of the meaning of the derivative. Nine judges[4] passed judgment on this basis, the only specific instructions to them being to consider the similarity in form and meaning between the English derivative and the Latin original, and to base their judgments on a scale of 10. That is, 10 means an assured understanding of the meaning of the English word from a previous study of the Latin word and its meaning, while 0 means no gain whatever.

The averages of their judgments are given in Table III.

TABLE III

Credit	Average judgment of transfer value nine judges
29-30-31	4.9
10	5.4
7	6.0
4	5.5

Another set of judgments by three judges, including two of the above nine, considered the possible transfer as limited by conditions in the class room, keeping in mind the extent to which recognition of derivation is conscious in the student. The average of these three is given in Table IV.

TABLE IV

Credit	Average judgment of transfer value three judges
30	2.6
10	3.7
7	4.1
4	3.8

The judgments of transfer value for the remaining 1,000 words are those of the writer alone, it being extremely difficult to obtain the time of competent judges. The following table gives the writer's judgment for both groups of 1,000 words.

TABLE V

Credit	Average judgment of transfer value
30	2.5
10	3.3
4	3.8
7	4.1
211-75	1.5
75-49	1.5
49-36	2.5
2	4.6
1	5.1
0	5.9

[4] Including two heads of Latin departments and one head of an English department in secondary schools, two Latin teachers, three graduate students of education and an attorney, all trained in Latin.

Referring to Tables III and IV, it is apparent that, except for the group of words of credit 4, there is an increase in possibility of transfer with decrease in credit of the words; that is, with decreased frequency of occurrence of the words in English literature, of such types as were used in the count of the Thorndike *Teachers Word Book*, the possibility of transfer from a study of Latin increased.

The part Latin plays in developing a high school student's English vocabulary and the part of his vocabulary that is of Latin derivation are two entirely different matters. The second can be determined by the percentage of words derived from the Latin. A measure of the first is attempted in this article.

One must not lose sight, however, of the difference between what might possibly be obtained and what can actually be obtained in the way of transfer in school subjects. The difference is roughly indicated by the difference in judgments of Tables III and IV. Again the transfer values should be to some extent discounted, since many of the words are known to the average student previous to his study of Latin.

It might be interesting, incidentally, to determine the extent of transfer in the other direction, that is, the extent to which the student is aided in his study of Latin through his English vocabulary.

An interpretation of the results is difficult. Is a transfer value of 6, on a scale of 10, worth a year of Latin, four years of Latin, or what? Perhaps the best answer would be an average of the judgments on this question of the judges. This the writer failed to obtain. It is evident from Tables III, IV and V that the greatest gain from Latin is with the less common words. What percentage of high school children would meet a sufficient percentage of words of credit 1 or 0 to make the study of Latin feasible? Further investigation of the problem is necessary before it can be satisfactorily answered.

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